



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.

9/27/2016

Sun Edison, LLC
179 Lincoln Street, Suite 500
Boston, MA 02111
Attention: Emily Mann, East Operations Manager

Office of Economic & Community Development
City of Amesbury
62 Friend Street
Amesbury, MA 01913
Attention: Thomas Barrasso, Director Energy & Environment

Re: AMESBURY – Solid Waste Management/COR
Titcomb Pit Landfill
South Hunt Road and Route 150
FMF# 314100

BWP SW36 / Post-Closure Use – Solar Power Generating Facility
Transmittal Number: X269745

Approval and Authorization to Construct

Dear Ms. Mann and Mr. Barrasso:

The Massachusetts Department of Environmental Protection, Northeast Regional Office, Bureau of Air and Waste, Solid Waste Management Section (“MassDEP”) has reviewed your application, category BWP SW36 *Post-Closure Use – Major*, Transmittal Number: X269745 (the “Application”), for the post-closure use of the Titcomb Pit Landfill located on South Hunt Road and State Route 150, in Amesbury, Massachusetts (the “Landfill”). The Application (was prepared and submitted to MassDEP on behalf of the City of Amesbury (the “City”) and Sun Edison, LLC of Boston, Massachusetts (“Sun Edison” or the “Developer”) by TRC Environmental, Inc. of Lowell, Massachusetts (“TRC”). On April 14, 2016, MassDEP requested additional information regarding storm water management calculations and controls presented in the Application. On August 8, 2016, TRC submitted to MassDEP the additional requested information.

The Application proposes the installation of a 2.8 megawatt (MW) solar photovoltaic power generating facility (“PV Facility”) on a 14.4 acre portion of the approximately 14.5 acre Landfill. The Application

This information is available in alternate format. Call the MassDEP Diversity Office at 617-556-1139. TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

includes design plans for the solar array and an engineer's report describing and supporting the design of the facility.

Capping of the Landfill was completed in 2012 and MassDEP issued approval of the closure certification report on July 26, 2013. The cap includes a 40-mil high-density polyethylene flexible membrane liner (FML) as the impervious layer over waste. The design of the landfill cap provides 20 inches of soil cover over the FML (8-inch vegetative support layer and 12-inch stormwater drainage layer), and a 6-inch gas vent layer below the FML.

The City will enter into a lease and energy purchase arrangement with Sun Edison for the installation and operation of the PV Facility.

The proposed PV Facility will consist of approximately 9,864 solar modules. The solar modules will be supported by galvanized steel and aluminum brackets mounted on precast concrete foundation ballasts. The ballast blocks will be utilized to stabilize the brackets and panels from sliding on the Landfill cap and uplift from wind. The system will be connected to the National Grid electric utility grid. A permanent access road will also be installed on top of the Landfill cap to allow vehicle access to the solar arrays for inspection and maintenance services. A construction laydown area with temporary access driveway will be located immediately southeast of the Landfill on City-owned property.

The Developer will be responsible for the mowing and maintenance of the vegetative cover of the Landfill within the fenced area of the PV Facility. Operation and maintenance of the Landfill and environmental monitoring of the site will continue to be performed by Waste Management Disposal Services of Massachusetts, Inc. ("WMDSM") pursuant to the Landfill's existing post closure environmental monitoring and maintenance plan (the "PCMMP"), last revised on December 1, 2015, Transmittal Number: X268177. The design and layout of the proposed project will allow for the continued environmental monitoring at the site. In addition, proper maintenance of the Landfill cap includes, but is not limited to, periodic mowing to prevent growth of vegetation with root systems that could be detrimental to the cap, and to prevent erosion of the cap. The PCMMP further discusses Landfill cap vegetation mowing and maintenance.

Additional details on the proposed project can be found in the Application and the Fact Sheet attached hereto as Attachment 1.

DECISION

MassDEP has determined that the Application is administratively and technically complete and that, subject to the terms and conditions of this decision and permit, the proposed post-closure use complies with the applicable requirements of 310 CMR 19.000, the Massachusetts Solid Waste Regulations (the "Solid Waste Regulations"). The Application demonstrates pursuant to 310 CMR 19.143(3) that the installation and operation of the solar PV facility as proposed and approved by this decision:

- Will not result in a disturbance of the Landfill cap that could cause an adverse impact to public health, safety or the environment;
- Will not impair the integrity or functioning of the final cover, the components of the containment system, the landfill gas control system, and the environmental monitoring systems; and
- Provides for the maintenance of the Landfill cap's storm water drainage facilities, basins, swales, and other erosion/sedimentation controls.

Therefore, in accordance with M.G.L. Chapter 111, § 150A and 310 CMR 19.143, MassDEP approves the Application and issues this Post-Closure Use Permit subject to the City's and Developer's compliance with 310 CMR 19.000 and the following conditions, imposed by MassDEP pursuant to 310 CMR 19.043(1) *Items Subject to Conditions* and 310 CMR 19.142(7) *Additional Measures*. This decision is a Post-Closure Use Permit pursuant to 310 CMR 19.143 *Post-Closure Use of Landfills*. Pursuant to 310 CMR 19.043(5)(a) *Duty to Comply*, this decision does not relieve the City, Developer, or any other person, of the responsibility to comply with all other applicable federal and state laws and regulations including, but not limited to acquiring applicable permits and approvals, including local permits.

CONDITIONS

1. The City and Developer shall comply with this permit and the requirements of 310 CMR 19.000, including, but not limited to, the requirements established at 310 CMR 19.043(5) *Standard Conditions*.
2. The City and Developer shall assure persons conducting activities¹ at the PV Facility and Landfill are familiar with the applicable provisions of this permit and the approved plans, and that all work performed at the Landfill complies with 310 CMR 19.000 and the applicable requirements of this permit.
3. The City and Developer shall coordinate the solar project layout design with WMDSM and its consultant to accommodate current and reasonably foreseeable future landfill gas remedial efforts. The City and Developer shall maintain a minimum ten (10) foot radius buffer between the closest edge of the Landfill solar arrays and all existing and future Landfill gas venting structures.
4. Not less than seven (7) days prior to commencing construction pursuant to the Application and this permit, the City and Developer shall notify MassDEP in writing of the scheduled date of the commencement of construction at the site. In addition, the notification shall include:
 - a. The projected schedule for completion of the major construction milestones of the PV Facility;
 - b. The name and contact information of an on-site contact for the construction;
 - c. A health and safety plan for MassDEP's files that includes, but is not limited to:
 - i. protocols for monitoring for landfill gas (methane, hydrogen sulfide, etc.) as needed;
 - ii. protocols for modifying work practices if landfill gas is detected at levels of concern (action levels);
 - iii. instruction and training of all personnel working on the site regarding the potential health and safety hazards at the Landfill including, but not limited to those associated with landfill gas;
 - iv. instruction and training of all personnel in compliance with the conditions of this permit and how to perform authorized activities in a manner that is not hazardous to public health, safety, and the environment: and
 - d. The National Pollutant Discharge Elimination System (NPDES) Notice of Intent and Stormwater Pollution Prevention Plan (SWPPP) for the project.

¹ Activities include, but are not limited to, the construction, installation, operation, and maintenance of the PV Facility and the Landfill.

5. The City and Developer shall not commence construction of the PV Facility until it has provided the plans and notification to MassDEP and the City of Amesbury Board of Health pursuant to Condition 4 above.
6. All construction work shall be completed and conducted under the supervision of an independent Massachusetts Registered Professional Engineer (“Engineer of Record”) who shall have sufficient qualified staff on-site to provide field supervision and quality assurance/quality control for all construction activities.
7. The City and Developer, and the Engineer of Record, are responsible to ensure that all necessary precautions are taken to protect the health and safety of workers and the general public during the construction and operation of the PV Facility and during its decommissioning.
8. Only low ground pressure construction equipment (with ground pressures of less than 7 PSI) may operate on the Landfill cap off of the access road, and only in accordance with the conditions of this decision. Prior to use of any specific equipment off the access road on the cap, the Engineer shall maintain documentation at the Landfill, for review by MassDEP upon request, that the equipment, fully loaded, will have a ground pressure of less than 7 PSI. Vehicles operating on the Landfill cap shall only be operated and parked on designated access roads, except for low-pressure construction equipment, which may operate off the access roads. All operators of vehicles entering the capped area of the Landfill shall, prior to their arrival, be instructed by the Engineer of Record or his/her designee and/or contractor of the requirements of this decision and permit, to avoid damage to the Landfill cap and appurtenances thereto. In no case shall rutting or other disturbance extend more than 6 inches deep into the vegetative support layer. If MassDEP determines the use of equipment is creating the potential for rutting greater than 6 inches in depth, or damage to the sand drainage layer or the impermeable layer, the usage of such equipment shall cease immediately upon notification by MassDEP, and alternative work practices for operation of equipment on the cap shall be proposed in writing to MassDEP for review and approval.
9. All disturbance of the Landfill shall be limited to the proposed excavations and installations as depicted and described in the Application and this permit. The Developer and any other contractors performing work at the Landfill shall without delay notify the Engineer of Record or his/her on-site representative upon encountering or damaging the flexible membrane liner (“FML”) component of the Landfill cap.
10. Electrical grounding system components, security fence posts, and other solar project components shall not penetrate the FML.
11. In the event that damage to the FML occurs or is observed, the City shall notify MassDEP without delay and in no case later than the close of business of the next business day after it becomes aware of any incident or such damage. This notification requirement is in addition to any other notification requirements required by statute or regulation including, but not limited to, 310 CMR 19.000 and 310 CMR 40.0000.
12. Any and all damage to the FML shall be promptly repaired. The FML shall be restored to the conditions as specified within the approved closure/post-closure plans. All work to repair damaged FML shall be completed and conducted under the supervision of the Engineer of Record who shall have sufficient qualified staff on-site to provide field supervision and quality

assurance/quality control for all cap repair activities. Any and all cap repairs shall be shown on the as-built plans and discussed in the construction certification report required by Condition 18 of this decision.

13. Installation of underground conduit shall include properly installed and filled explosion proof seal-off(s) at each location the conduit daylights.
14. Excess topsoil generated by the installation of the PV Facility shall be taken off site for proper disposal or reuse according to applicable regulations or policies.
15. The City and Developer shall maintain copies of this decision and permit, the Application, the health and safety plan, and documentation that site personnel have been trained pursuant to the health and safety plan at the site during construction of the PV Facility.
16. Pursuant to 310 CMR 19.043 *Standard Conditions*, MassDEP and its agents and employees shall have the right to inspect the Landfill, any equipment, structure or land located thereon, to take samples, to perform tests, and have access to and photocopy records, and to otherwise monitor compliance with this permit and all environmental laws and regulations administered by MassDEP.
17. The City shall cause to be recorded with the Registry of Deeds, or if the land is Registered Land, with the registry section of the land court for the district in which it lies, a Record Notice of Landfill Operation complying with M.G.L. Chapter 111, § 150A and 310 CMR 19.141. The Notice shall include the Facility Master File Facility Number as part of identification of the MassDEP file for the Landfill.
18. Prior to commencing operation of the PV Facility, and in no event on or before ninety (90) days after the date of completion of the construction of the PV Facility, the City and Developer shall submit for review and approval by MassDEP a construction certification report, as an application category BWP SW45 *Alternative Review Process*, that includes, but is not limited to:
 - a. As-built plans for the final as constructed PV Facility amended to incorporate all modifications and alterations, if any, made during construction;
 - b. A narrative, prepared by the Engineer of Record that discusses in part, any modifications made to the design of the PV Facility;
 - c. Certifications by the City, Developer, and the Engineer of Record pursuant to 310 CMR 19.011; and
 - d. A copy of the Notice of Landfill Operation, pursuant to 310 CMR 19.141, as recorded in the registry of deeds or in the registry section of the land court for the district wherein the Landfill lies in accordance with M.G.L. c. 111, sec 150A.
19. On or before thirty (30) days after the date the PV Facility ceases operation, the City and Developer shall submit to MassDEP an application pursuant to 310 CMR 4.00 and 310 CMR 19.000 for the decommissioning of the PV Facility and the restoration of the Landfill cap and appurtenances thereto. The application shall include, but not be limited to, a narrative, plans and schedule for the decommissioning of the PV Facility and the restoration of the Landfill's cap and appurtenances.²

² Appurtenances include, but are not limited to storm water controls, landfill gas control structures, landfill gas and groundwater monitoring wells.

20. MassDEP reserves the right to amend, modify, suspend or revoke this permit pursuant to 310 CMR 19.036 *Department's Modification, Suspension, or Revocation of a Permit*. This does not limit or restrict MassDEP from implementing any other applicable authority at the Landfill including, but not limited to authority pursuant to 310 CMR 40.0000.
21. This permit is effective on the date signed by MassDEP below, except as provided by the Notice of Appeal Rights below and 310 CMR 19.033(4)(b). This permit shall expire on December 31, 2036, provided that MassDEP may amend the term of the permit in accordance with a modification pursuant to 310 CMR 19.033 or 310 CMR 19.034. The City and Developer shall submit to MassDEP on or before June 30, 2036 either an application to renew the permit or notice of its intent to close the PV Facility. Wherein the City and the Developer elects to close the facility, the City and the Developer shall submit an application for the decommissioning of the PV Facility and the restoration of the Landfill cap and appurtenances thereto pursuant to paragraph 18, above.
22. The City and Developer shall not deviate from this permit and the approved design plans. The City shall notify MassDEP prior to any modification(s) of the design and of any significant changes in the project schedule. MassDEP may, at its sole discretion, require the City to submit an application to MassDEP for review and approval for any modification/alteration to the design. In the event that MassDEP determines that a permit application is required for a modification, the City shall submit such application to the MassDEP in accordance with the schedule specified by MassDEP.
23. No transfer of this permit shall be permitted except in accordance with the requirements of 310 CMR 19.044. If at any time, the permittee for this project does not include a municipal entity, the permittee shall provide to MassDEP a financial assurance mechanism, in accordance with 310 CMR 19.051, for the costs of decommissioning and site restoration activities.
24. The solar project layout design as proposed includes a number of arrays with solar panel drip edges aligned parallel to the side slope. In the event erosion control measures described in the Storm Water Erosion Control Plan included with the Application do not fully control erosion of the Landfill cap vegetative support layer, the Developer shall submit an updated Storm Water Erosion Control Plan to MassDEP for approval.
25. The City shall coordinate with WMDSM and the Developer to submit one combined comprehensive Third-Party Inspection Report for the entire Landfill per the schedule set forth in the Landfill's approved Post Closure Maintenance and Monitoring Plan.
26. The Developer shall submit a written landfill cover inspection report, to include an inspection of the entire landfill cover, to MassDEP for each mowing event during the first two years following completion of construction of the PV Facility. The landfill cover inspection report shall include, without limitation, all location(s) where landfill cover requires repair, the method(s) of repair, and the timeline to implement the repair(s).

NOTICE OF RIGHT TO APPEAL

The City of Amesbury (the “City”) and Sun Edison, LLC, hereinafter collectively referred to as the “Applicant,” is hereby notified that it may within twenty-one (21) days of the date of issuance file a request that this decision and permit be deemed a provisional decision under 310 CMR 19.033(4)(b), by submitting a written statement of the basis on which the Applicant believes it is aggrieved, together with any supporting materials. Upon timely filing of such a request, the decision shall be deemed a provisional decision with an effective date twenty-one (21) days after the MassDEP’s receipt of the request. Such a request shall reopen the administrative record, and the MassDEP may rescind, supplement, modify, or reaffirm its decision. Failure by the Applicant to exercise the right provided in this section shall constitute a waiver of the Applicant’s right to appeal.

Appeal. Any person aggrieved by the issuance of this decision may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. c. 111, s. 150A, and M.G.L. c. 30A, not later than thirty (30) days following the date of issuance of the final decision. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the decision by a court of competent jurisdiction, the decision shall remain effective.

Notice of Action. Any aggrieved person intending to appeal this decision to the Superior Court shall first provide notice to the MassDEP of their intention to commence such action. Said notice of intention shall include the MassDEP’s file number and shall identify with particularity the issues and reasons why it is believed the decision was not proper. Such notice shall be provided to the Office of General Counsel of the MassDEP and the Regional Director for the regional office which processed the application at least five (5) days prior to the filing of an appeal. The appropriate addresses to which to send such notices are:

General Counsel
Massachusetts Department of Environmental Protection
One Winter Street – 3rd Floor
Boston, MA 02108

Eric Worrall, Regional Director
Massachusetts Department of Environmental Protection
Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887

No allegation shall be made in any judicial appeal of this decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in those regulations, provided that a matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

Should you have any questions relative to this approval, please contact Roger Moeller at (978) 694-3306 or Richard Spieler at (978) 694-3317.

Sincerely,

Sincerely,

This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.

Roger K. Moeller
Environmental Engineer
Solid Waste Management

Mark G. Fairbrother
Section Chief
Solid Waste Management

MGF/RKM/rkm

Attachment: Application Review Fact Sheet (Attachment 1).

Enclosure: Communication for Non-English Speaking Parties

cc:

Amesbury Board of Health
City of Amesbury
9 School Street
Amesbury, MA 01913

Sun Edison, LLC
179 Lincoln Street, Suite 500
Boston, MA 02111

ecc:

Robert Jackson, PE
TRC Environmental, Inc.
Email: RJackson@trcsolutions.com

Mark Devine
Waste Management Disposal Services of Massachusetts, Inc.
Email: mdevine@wm.com

Susan Ruch, Deputy Regional Director
MassDEP-NERO, Bureau of Air and Waste

Richard Spieler
MassDEP-NERO/BAW, Solid Waste Management